N 55-1306

Office Memorandum • UNITED STATES GOVERNMENT

SPM-5-175

TO : Chief, Communications Engineering Division DATE: 25 October 1955

FROM : Chief, Communications Supplemental Programs Division

SUBJECT: [redacted] Audio Oscillator E/IN-IX 25X1

1. The experimental model of the agent audio oscillator E/IN-IX has been received by this Branch and evaluated for modifications prior to requesting additional units. The size, configuration and electrical characteristics indicate it should become one of the more useful components to augment our present [redacted] operations. 25X1

2. It is our understanding that the Research and Development Laboratory has received the components to effect the miniaturization of the units. A number of modifications and refinements are herewith suggested to be incorporated in the final models.

? A. Substitution of a miniature Veeder Root Counter in place of the present frequency control dial. (either)

✓ B. Knurling of outer frequency Control Dial (in event Veeder Root Counter can not used)

✓ C. A Volume Control (Oscillator Output) is required as present fixed output is at too high a level and will prevent reading of data through oscillator signal.

cut RMI2 if need for SP

? D. Equalization of battery life. The present 7 to 1 ratio of battery life is not compatible with the principle of replacing all batteries at fixed time intervals. A reduction of this life ratio will either extend the overall operational life of the unit or decrease required battery compartment size.

✓ E. Provide shielded cable leads to reduce stray pickup.

✓ F. Provide the case and cover screws with a coin slot to allow battery replacement, etc., without the need of a screw driver.

✓ G. Recess the microswitch (keyer) and provide a larger button for the operator.

✓ H. Provide universal designations or symbols for the controls, switches, and outlets. (Example: Rather than "FREQUENCY" the letter "F" which is not peculiar to the English language.)

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I. Supply the "B" battery supply through the ON-OFF Switch to prevent accidental deterioration of the "B" supply through accidental keying.

J. Increase the frequency stability, dial calibration, and resettability of the oscillator to the following specifications.

Frequency Stability -- ± 2% between limits of $0^{o}C$ - $+50^{o}C$
Dial Calibration -- ± ~~2%~~ at low end ± 5% at high and
Resettability -- ± 2% 5%

K. Provide a dial scale requiring less interpolation through utilization of the Veeder Root Counter or redesign of the present dial (i.e. include a diagonal vernier scale of 10 units between the 10 digits now shown instead of the present 5 units between the 10 units.)

3. A requirement exists for five prototype units incorporating the above requirements as closely as feasible and it is requested that your Division undertake the design and construction of units to meet this requirement. Should your models prove successful in field evaluation it is anticipated that a contract for twenty additional oscillators will be instigated with your models serving as prototypes. Should your Division desire additional information concerning the above, reference is made to the ELINT Activities Branch of this Division (2718 Alcott Hall, [redacted] 25X1

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